

CLAIMS

1. A device comprising:

an elongated tubular body having an axis, a proximal end, a distal end and a lumen longitudinally extending therethrough; and

a dilating tip slidably mounted on the distal end of the tubular body and comprising a segmented surface that is generally transverse to the axis of the tubular body, and a generally rigid tube extending distally from the segmented surface and having a sharp distal end;

wherein distal movement of the tubular body relative to the dilating tip exerts a force on the segmented surface to thereby open the segmented surface.

2. A device according to claim 1, wherein the elongated tube is generally cylindrical.

3. A device according to claim 1, where the segmented surface comprises two or more segments.

4. A device according to claim 1, where the segmented surface comprises three or more segments.

5. A device according to claim 1, wherein the dilating tip further comprises a ring mounted in surrounding relating to the tubular body.

6. A device according to claim 5, wherein the segmented surface comprises a plurality of segments, each of which is hingedly attached to the ring.

7. A device according to claim 1, wherein the dilating tip is generally funnel-shaped.

8. A device according to claim 1, wherein the tube is segmented.

9. A device according to claim 1, wherein the tube has a length ranging from about 2 mm to about 6 mm.

10. A device according to claim 1, wherein the tube has a length ranging from about 3 mm to about 5 mm.

11. A device according to claim 1, wherein the tube has an outer diameter ranging from about 0.6 mm to about 1 mm.

12. A device according to claim 1, wherein the tube has an outer diameter ranging from about 0.7 mm to about 0.8 mm.

13. A device according to claim 1, wherein the dilating tip comprises nitinol.

14. A device according to claim 1, further comprising a wire extending proximally from the dilating tip to near the proximal end of the tubular body to affect proximal movement of the dilating tip relative to the tubular body.

15. A device according to claim 14, further comprising a slidable member on the proximal end of the tubular body, the slidable member being connected to the wire so that proximal movement of the slidable member pulls the wire and causes proximal movement of the dilating tip relative to the tubular body.

16. A device according to claim 15, further comprising a latch for maintaining the position of the slidable member relative to the tubular body when the dilating tip is in an open arrangement.

17. A device according to claim 1, further comprising a pressure valve at or near the proximal end of the tubular body.

18. A device comprising:

an elongated tubular body having an axis, a proximal end, a distal end and a lumen longitudinally extending therethrough;

a dilating tip slidably mounted on the distal end of the tubular body and comprising:

a ring mounted in surrounding relating to the distal end of the tubular body; a segmented surface that is generally transverse to the axis of the tubular body, the segmented surface comprising three or more segments, each segment being hingedly attached to the ring; and a generally rigid tube extending distally from the segmented surface, the tube having a sharp distal end and being segmented into three or more segments; wherein distal movement of the tubular body relative to the dilating tip exerts a force on the segmented surface to thereby open the segmented surface.

19. A device according to claim 18, further comprising:
a slidable member slidably mounted on or near the proximal end of the tubular body; and
a wire having a distal end attached to the ring of the dilating tip and a proximal end attached to the slidable member;
wherein proximal movement of the slidable member pulls the wire and causes proximal movement of the dilating tip relative to the tubular body.

20. A method for accessing the left atrium of a patient comprising:
inserting the dilating tip of the device of claim 1 into the right atrium of the patient;
puncturing the atrial septum with the tube of the dilating tip to create a trans-septal hole;
advancing the tubular body distally relative to the dilating tip to open the segmented surface and introduce a distal portion of the tubular body into the left atrium through the trans-septal hole.

21. A method according to claim 20, further comprising advancing at least a portion of the dilating tip through the trans-septal hole prior to advancing the tubular body distally relative to the dilating tip.

22. The method of claim 20, further comprising monitoring the pressure in the tubular body.